UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/997,732	11/29/2001	James A. Proctor JR.	2479.1008-014	4009

27975 7590 09/07/2006

ALLEN, DYER, DOPPELT, MILBRATH & GILCHRIST P.A.
1401 CITRUS CENTER 255 SOUTH ORANGE AVENUE
P.O. BOX 3791
ORLANDO, FL 32802-3791

EXAMINER	
SHAND, ROBERTA A	
ART UNIT	**PAPER NUMBER**
2616	

DATE MAILED: 09/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/997,732	PROCTOR, JAMES A.	
	Examiner	Art Unit	
	Roberta A. Shand	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 August 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24 and 27-59* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8, 12-15, 20-24, 26, 27, 29-32, 37-59* is/are rejected.

7)☒ Claim(s) *9-11,16-19,28 and 33-36* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 5, 6, 20, 24, 37, 43, 48, 49, 50 and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Norman (U.S. 6366786 B1) in view of Harsch (U.S. 6212175 B1) and further in view of Ozluturk (U. S. 5841768).

3. Regarding claim 1, Norman teaches (fig. 4) a method of controlling timing of synchronization message between a subscriber access unit (10) and a base station processor (12_ in a wireless system, comprising: providing at least one link (27) between the subscriber and the base station processor, establishing a synchronization between the subscriber and the base station (abstract); transmitting a synchronization message from the subscriber access unit (10) to the base station processor (12, (col. 2, line 41-62)).

4. Norman does not teach computing a timing interval in which to periodically resend the synchronization maintenance message for maintaining an idling mode connection between the subscriber and the bas station processor.

5. Harsch teaches (abstract and col. 12, lines 3-42) computing a timing interval in which to periodically resend the synchronization maintenance message for maintaining an idling mode

connection between the subscriber and the bas station processor (fig. 5). It would have been obvious to one of ordinary skill in the art to adapt this to Norman's system to keep the current connection between the mobile and base station maintained (Harsch, abstract).

6. Norman and Harsch do not teach CDMA.

7. Ozluturk teaches (col. 1) synchronization in a wireless CDMA system. It would have been obvious to one of ordinary skill in the art to adapt CDMA to Norman and Harsch's system because CDMA allows more subscribers to connect at a given time utilizing spread spectrum techniques.

8. Regarding claims 5 and 24, Norman teaches (col. 2, line 41-62) active and inactive links and synchronization message is transmitted on the inactive links

9. Regarding claim 6, Harsch teaches (abstract) the idling mode connection maintains the synchronization between the subscriber and the base station processor.

10. Regarding claim 20, Normann teaches (fig. 4) a system for controlling timing of synchronization message between a subscriber access unit (10) and a base station processor (12) in a wireless system, comprising: a base station processor (12); at least one subscriber unit (10); a protocol converter in the base station processor operable to provide at least one link (27) between the subscriber (10) and the base station processor (12), establishing a synchronization between the subscriber and the base station; transmitting a synchronization message from the subscriber access unit to the base station processor (col. 2, line 41-62).

11. Norman does not teach computing a timing interval in which to send an additional synchronization maintenance message sufficient to maintain an idling mode connection between the subscriber and the bas station processor.

12. Harsch teaches (abstract and col. 12, lines 3-42) computing a timing interval in which to send an additional synchronization maintenance message sufficient to maintain an idling mode connection between the subscriber and the bas station processor (fig. 5). It would have been obvious to one of ordinary skill in the art to adapt this to Norman's system to keep the current connection between the mobile and base station maintained (Harsch, abstract).

13. Norman and Harsch do not teach CDMA.

14. Ozluturk teaches (col. 1) synchronization in a wireless CDMA system. It would have been obvious to one of ordinary skill in the art to adapt CDMA to Norman and Harsch's system because CDMA allows more subscribers to connect at a given time utilizing spread spectrum techniques.

15. Regarding claim 37, Norman teaches (fig. 4) a subscriber unit comprising: a wireless transceiver configured to provide wireless communications of digital signals over a digital communications path (27) in a wireless system; and a bandwidth manager coupled to the wireless transceiver and configured to receive over digital communications path a time slot assignment from a remote wireless transceiver. It is inherent in Norman's system that data is transmitted according to time slots assigned. (col. 2, line 41-62).

16. Norman does snot teach wireless transceiver configured to transmit gated idle mode signal over the digital communications path based upon the time slot assignment during an idle

mode connection wherein said wireless transceiver is powered on but not actively sending data so that the remote wireless transceiver can maintain timing alignment.

17. Harsch teaches (abstract and col. 12, lines 3-42) wireless transceiver configured to transmit gated idle mode signal over the digital communications path based upon the time slot assignment during an idle mode connection wherein said wireless transceiver is powered on but not actively sending data so that the remote wireless transceiver can maintain timing alignment (fig. 5). It would have been obvious to one of ordinary skill in the art to adapt this to Norman's system to keep the current connection between the mobile and base station maintained (Harsch, abstract).

18. Norman and Harsch do not teach CDMA

19. Ozluturk teaches (col. 1) synchronization in a wireless CDMA system. It would have been obvious to one of ordinary skill in the art to adapt CDMA to Norman and Harsch's system because CDMA allows more subscribers to connect at a given time utilizing spread spectrum techniques.

20. Regarding claim 43, Norman teaches (fig. 4) a mobile terminal comprising: a wireless transceiver configured to provide wireless communications of digital signals over a digital communications path (27) in a wireless system, including transmission synchronization signal to establish communications session with a base station (12); and a bandwidth manager coupled said wireless transceiver and configured to allocate sub-channels on an as needed basis when said wireless transceiver is actively sending data, and receive over the digital communications

path time slot assignment from the base station (12). It is inherent in Norman's system that data is transmitted according to time slots assigned. (col. 2, line 41-62).

21. Norman does not teach transmitting gated idle mode signal; said wireless transceiver configured to transmit the gated idle mode signal over the digital communications path based upon time slot assignment during an mode connection wherein said wireless transceiver is powered on but not actively sending data so that the remote wireless transceiver can maintain timing alignment.

22. Harsch teaches (abstract and col. 12, lines 3-42) transmitting gated idle mode signal; said wireless transceiver configured to transmit the gated idle mode signal over the digital communications path based upon time slot assignment during an mode connection wherein said wireless transceiver is powered on but not actively sending data so that the remote wireless transceiver can maintain timing alignment (fig. 5). It would have been obvious to one of ordinary skill in the art to adapt this to Norman's system to keep the current connection between the mobile and base station maintained (Harsch, abstract).

23. Norman and Harsch do not teach CDMA

24. Ozluturk teaches (col. 1) synchronization in a wireless CDMA system. It would have been obvious to one of ordinary skill in the art to adapt CDMA to Norman and Harsch's system because CDMA allows more subscribers to connect at a given time utilizing spread spectrum techniques.

25. Regarding claim 48, as for the bandwidth manager configured to receive over the data communications path an updated time slot assignment on when a subsequent gated idle mode

signal be transmitted, it is inherent in Harsch's system that data is transmitted according to time slots assigned.

26. Regarding claim 49, Norman teaches (fig. 4) a subscriber unit comprising: a wireless transceiver configured to provide wireless communications of digital signals over a digital communications path (27) in a wireless system, the digital signals being communicated using at least one radio frequency channel and a bandwidth manager coupled to said wireless transceiver and configured make available a plurality sub-channels within each radio frequency channel, and to allocate the available sub-channels on an as-needed basis with the number of sub-channels changing during a given session. It is inherent in Norman's system that channels are used as need to transmit data.

27. Norman does not teach wireless transceiver configured to transmit a gated mode signal an available sub-channel over digital communications path during an idle mode connection wherein said wireless transceiver is powered on but not actively sending data.

28. Harsch teaches (abstract and col. 12, lines 3-42) wireless transceiver configured to transmit a gated mode signal an available sub-channel over digital communications path during an idle mode connection wherein said wireless transceiver is powered on but not actively sending data (fig. 5). It would have been obvious to one of ordinary skill in the art to adapt this to Norman's system to keep the current connection between the mobile and base station maintained (Harsch, abstract).

29. Norman and Harsch do not teach CDMA

30. Ozluturk teaches (col. 1) synchronization in a wireless CDMA system. It would have been obvious to one of ordinary skill in the art to adapt CDMA to Norman and Harsch's system because CDMA allows more subscribers to connect at a given time utilizing spread spectrum techniques.

31. Regarding claims 50, Harsch teaches (abstract and col. 12, lines 3-42) the bandwidth manager configured to receive over the digital communications path a time slot assignment (it is inherent in Harsch's system that data is transmitted according to time slots assigned) from a remote wireless transceiver; and wherein said wireless transceiver is configured to transmit the gated idle mode signal over the digital communications path during the idle mode connection based upon time slot assignment so that the remote wireless transceiver can maintain timing alignment (fig. 5).

32. Regarding claims 52, Harsch teaches (abstract and col. 12, lines 3-42) the bandwidth manager configured to receive over the digital communications path power control message from a remote wireless transceiver, and to compute power level corresponding to the power control message for the gated idle mode signal; and wherein said wireless transceiver is configured transmit the gated idle mode signal over the digital communications path during the idle mode connection at computed power level to remote wireless transceiver so that power control is maintained.

33. Claim 56 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakano (U.S. 5559789) in view of Harsch (U.S. 6212175 B1).

34. Regarding claim 56, Nakano teaches (fig. 3) a subscriber unit comprising: a wireless transceiver configured to provide wireless communications of digital signals over digital communications path a wireless CDMA system; a bandwidth manager coupled to said wireless transceiver and configured receive over the digital communications path a time slot assignment (col. 3, lines 23-60) and a power control message from the remote wireless transceiver (fig. 4, col. 4, line 40 – col. 5, line 10); said bandwidth manager configured compute power level corresponding to the power control message, and select an idle mode signal spreading code.

35. Nakano does not teach wireless transceiver configured to transmit gated idle mode signal to the remote wireless transceiver over the digital communications path based upon the time slot assignment during an idle mode connection wherein said wireless transceiver is powered on not actively sending data so that power control maintained, a code phase lock is maintained, and timing alignment is maintained with the remote wireless transceiver.

36. Harsch teaches (abstract) wireless transceiver configured to transmit gated idle mode signal to the remote wireless transceiver over the digital communications path based upon the time slot assignment during an idle mode connection wherein said wireless transceiver is powered on not actively sending data so that power control maintained, a code phase lock is maintained, and timing alignment is maintained with the remote wireless transceiver (fig. 5). It would have been obvious to one of ordinary skill in the art to adapt this to Nakano's system to keep the current connection between the mobile and base station maintained (Harsch, abstract).

37. Claims 2-4, 8, 12-15, 21-23, 27, 29, 30-32, 39-42, 45-47, 51, 53, 57 and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Normann in view of Harsch further in view of Ozluturk and yet further in view of Storm (U. S. 6016312).

38. Regarding claims 2, 21, 53 and 58, Norman, Harsch and Ozluturk do not explicitly teach computing a timing interval containing a duration required to maintain the wireless link.

39. Storm teaches (fig. 3B) computing a timing interval containing a duration required to maintain the wireless link. It would have been obvious to one of ordinary skill in the art to adapt this to Norman, Harsch and Ozluturk's system to avoid data loss within the system and to maintain synchronization during low power (Storm, abstract).

40. Regarding claims 3 and 22, Storm teaches (fig. 3A) the timing interval being a timeslot

41. Regarding claims 4 and 23, Storm teaches (fig. 3A) each subscriber (radio) corresponds to one timeslot.

42. Regarding claims 8 and 27, Storm teaches (fig. 3B) determining the minimal duration for maintaining the idling mode.

43. Regarding claims 12, 29, 39, 45, 51 and 57, Storm teaches (col. 3, lines 53- col. 4, line 6) a timing marker indicative of a reference point for generating timing correction.

44. Regarding claims 13, 30, 40 and 46, Storm teaches (col. 3, lines 53- col. 4, line 6) the timing marker is a pilot symbol.

45. Regarding claims 14, 31, 41 and 47, Storm teaches (col. 3, lines 53- col. 4, line 6) the timing marker is a short code.

46. Regarding claims 15, 32 and 42, Storm teaches (fig. 3A) the base station processor sends a message indicative of when the next synchronization message should be sent.

47. Claims 7, 26, 38, 44, 54, 55 and 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Norman in view of Harsch, further in view of Ozluturk and yet further in view of Fenton (U.S. 5101416).

48. Norman, Harsch and Ozluturk do not teach code phase lock.

49. Fenton teaches (col. 12, lines 6-12) code phase lock. It would have been obvious to one of ordinary skill in the art to adapt this to Norman, Harsch and Ozluturk's system, to determine the code phase error ensuring minimal data error within the system.

Allowable Subject Matter

50. Claims 9-11, 16-19, 28 and 33-36 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

51. Applicant's arguments with respect to claims 1-36 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

52. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Roberta A Shand whose telephone number is 571-272-3161. The examiner can normally be reached on M-F 9:00am-5:30pm.

53. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on 571-272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

54. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Roberta A Shand
Examiner
Art Unit 2665

HUY D. VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600